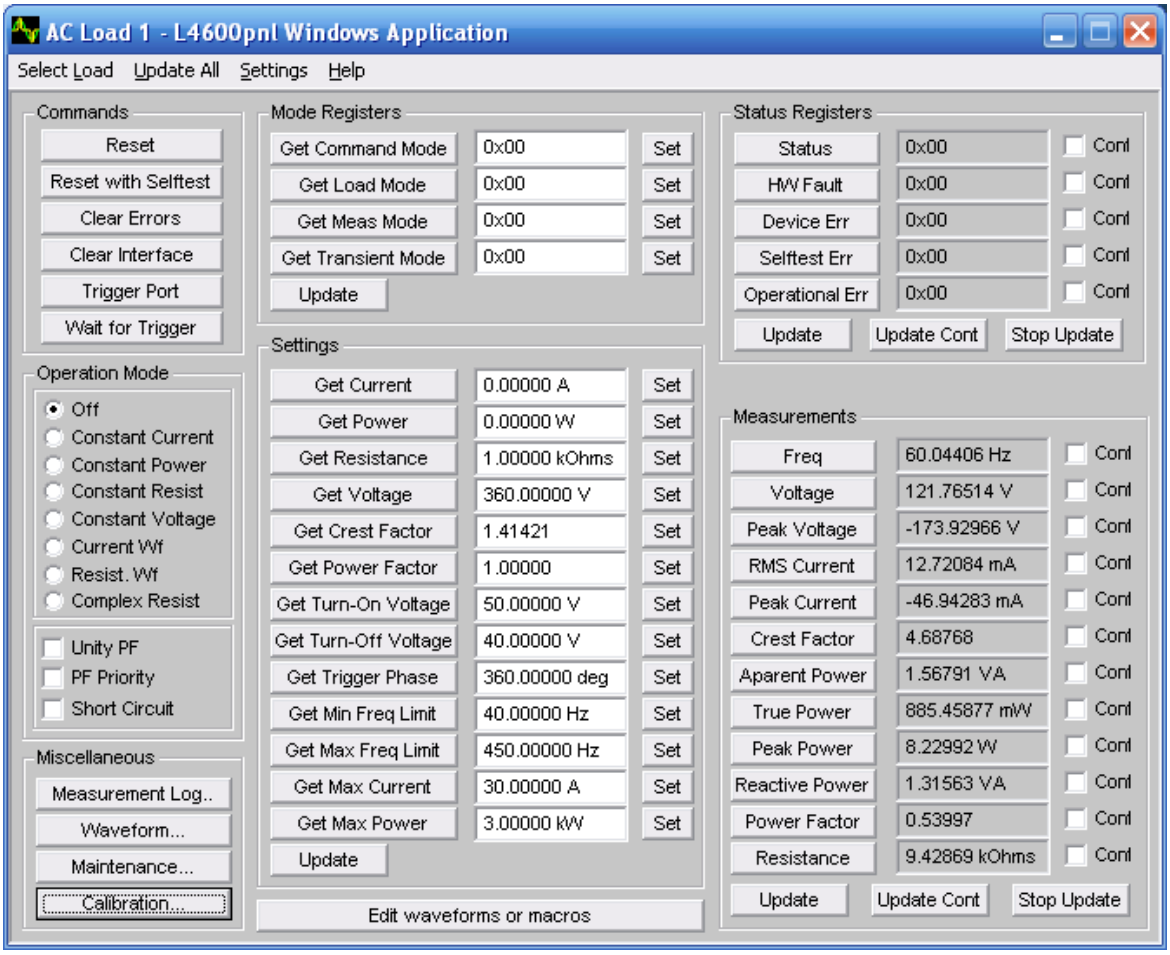
4600 Series
AC Load Calibration

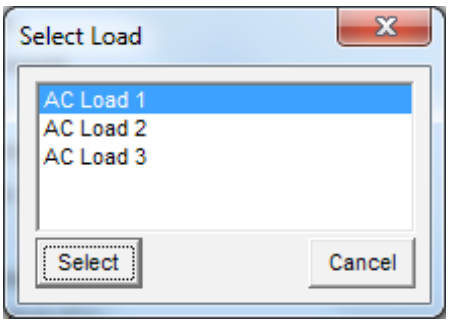
NH Research, Inc.

How to Calibrate

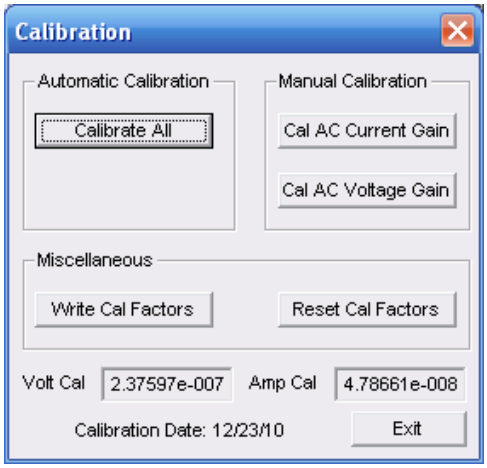
Start the AC Load Maintenance Panel, if there is more than one load in the system; use the "Select Load" menu to choose the desired load to calibrate.

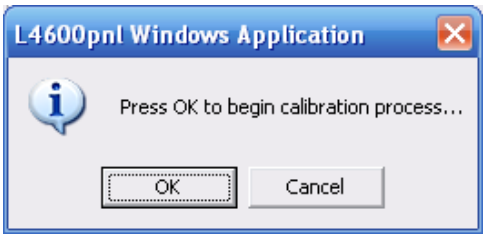


The following screen represents a 3 Phase load system. AC Load 1 represent all the loads connected to phase A, each phase includes one master load and up to five auxiliary loads. Repeat the process for AC Load 2 and AC Load 3.

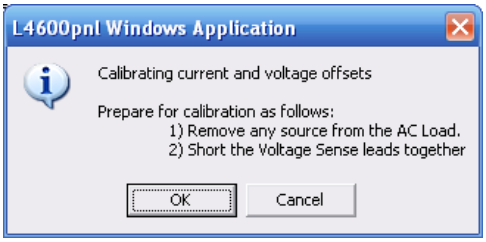


Connect a Power Analyzer with high accuracy option between the load and the source. Click on the "Calibration" button to obtain the calibration panel. Then click on "Calibrate All" and follow the on screen instructions.



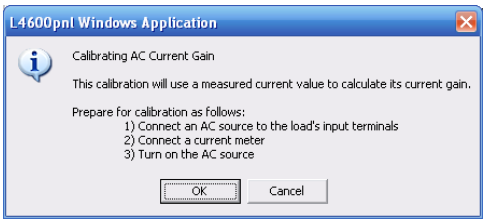


Disconnect the connector from "Load Power Input" connector on the back of the load's chassis. Place a short across the Voltage Sense pins (pin 2 to pin 8).

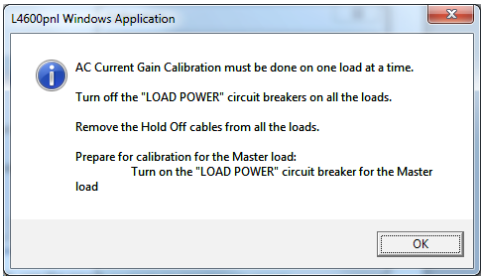

L4600pnl Windows Application
Calibrating current and voltage offsets
Prepare for calibration as follows:
1) Remove any source from the AC Load.
2) Short the Voltage Sense leads together
OK
Cancel

Click "OK" then remove the short across the sense pins.

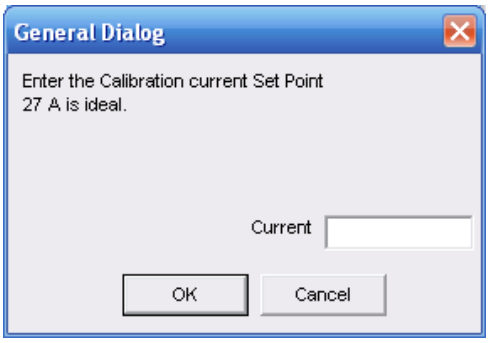
Calibrating AC Current Gain


L4600pnl Windows Application
Calibrating AC Current Gain
This calibration will use a measured current value to calculate its current gain.
Prepare for calibration as follows:
1) Connect an AC source to the load's input terminals
2) Connect a current meter
3) Turn on the AC source
OK
Cancel

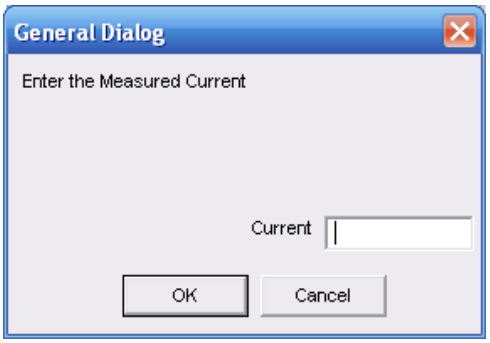
The following screen will display if more than one load is connected, in this case turn OFF the Load Power switch on all loads except the one under calibration.


L4600pnl Windows Application
AC Current Gain Calibration must be done on one load at a time.
Turn off the "LOAD POWER" circuit breakers on all the loads.
Remove the Hold Off cables from all the loads.
Prepare for calibration for the Master load:
Turn on the "LOAD POWER" circuit breaker for the Master load
OK

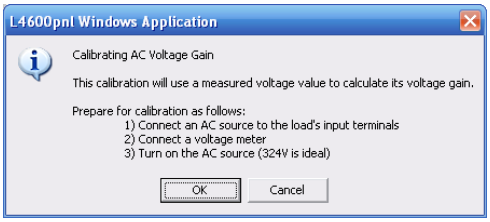
Connect the AC source to the load's input terminals, use the power analyzer to monitor the actual current drawn by the load, turn ON the AC source and set the voltage and current to 90% of maximum rating. Enter the set current value in the field below.



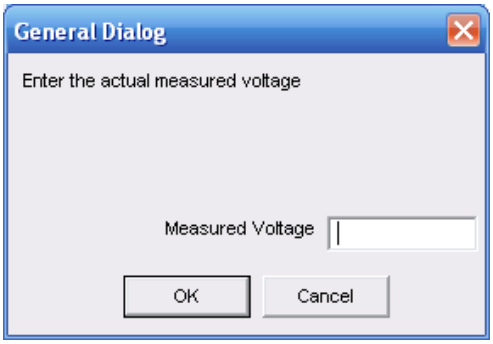
Enter the actual current measured by the Power meter in the field below.



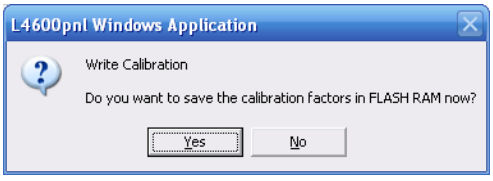
Calibrating AC Voltage Gain


L4600pnl Windows Application
Calibrating AC Voltage Gain
This calibration will use a measured voltage value to calculate its voltage gain.
Prepare for calibration as follows:
1) Connect an AC source to the load's input terminals
2) Connect a voltage meter
3) Turn on the AC source (324V is ideal)
OK
Cancel

Use a high accuracy multi-meter measure the AC source voltage at the sense point and enter the value in the field below.



Click “Yes” to write the Calibration Factors on to the Flash.



Calibration is now complete.

Appendix

Refer to the user's manual 09-0237 for more information.

1. Navigate to "C:\Program Files\NH Research\emPower" directory and create a new shortcut from "I4600pnl" application.
2. Select and right click the shortcut you just created then select Properties.

On the Properties change the Target to ("C:\Program Files\NH Research\emPower\I4600pnl.exe" e), simply add "_e" (_ indicates space) to the end of the line.

Contact NH Research for more information or to discuss your testing needs

NH Research, Inc.
16601 Hale Avenue, Irvine, California 92606
Tel: 949-474-3900
E-mail: sales@nhresearch.com
www.nhresearch.com

©Copyright 2014, NH Research Incorporated. Pub. 05-29-14 JC
All rights reserved. Specifications subject to change without notice.